



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,315	02/14/2002	Yoshiyuki Batori	1232-4820	3222
27123	7590	02/10/2006	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			WOODS, ERIC V	
			ART UNIT	PAPER NUMBER
			2672	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,315

Applicant(s)

BATORI ET AL.

Examiner

Eric Woods

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 and 16-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-15 and 40-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks pages 1-12 and claim amendments, filed 26 October 2005, with respect to the rejection(s) of claim(s) 12-15 under 35 USC 112, first and second paragraphs, and 35 USC 103(a) have been fully considered and are persuasive.

See the Election / Restriction section below for details on this portion of the response. However, it was not found to be persuasive, and the restriction requirement is made **FINAL**.

Examiner appreciates applicant's clarification of which priority date the instant claims receive.

The objections to the drawings stand withdrawn in view of applicant's submission of corrected drawing sheets that remedy the cited deficiencies.

The objection to the title stands withdrawn in view of applicant's amendments.

The objections to the specification section 'Brief Summary' stands withdrawn.

Examiner appreciates the clarification provided in section V (3).

The objections covered in section V subsections 4-6 stand withdrawn in view of applicant's citation of appropriate MPEP documentation that the objection in subsection IV was improper; the clarification in Section VI to meet certain requirements; and the submission of an IDS under 37 CFR 1.97 to fulfill obligations under 37 CFR 1.56.

The rejection of claim 15 under 35 USC 101 stands withdrawn in view of applicant's amendments.

Art Unit: 2672

The rejections of claims 12-15 under 35 USC 112, first and second paragraphs, stand withdrawn in view of applicant's clarifications in sections VII-VIII and applicant's amendments.

The rejections of claims 12-15 under 35 USC 103(a) are **NOT** withdrawn in view of applicant's amendments. The arguments are not found to be persuasive, and the references provide the additional limitations. See the grounds of rejection below, which have been modified to take into account the added limitations.

Examiner disagrees with applicant's contention that there is no motivation for combining the references. Rather, in response to applicant's argument that no motivation for such a combination exists, the fact that applicant has recognized another advantage that would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Claims 40-41 are newly added.

Election/Restrictions

Applicant's election with traverse of the restriction requirement in the reply filed on 26 October 2005 is acknowledged. The traversal is on the ground(s) that the claims do not require a separate search and thusly do not constitute an undue burden on the Office. This is not found persuasive because these constitute separate embodiments, and the various aspects of how this occurs (in terms of zooming, clipping, marking, scaling, and the like) have separate subclasses, thus proving that in any event a separate search would still be required. Additionally, Groups I-V constitute separate

Art Unit: 2672

species, and as such an election would have been required in any case, if the restriction requirement had not been made.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 12-15 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe in view of Ryals.

Claim 14 is an information processing method implemented by the system of claim 12, and claim 15 is a computer program implementing the method of claim 14. Any computer-implemented method meeting the requirements of claim 14 is valid against claim 15 without further comment, and since the system of the instant application in claim 12 is implemented using software, one reference is valid against the other two claims without further comment. Examiner to the best of examiner's

Art Unit: 2672

understanding is interpreting the “means” requirements, since applicant has not spelled them out. It is submitted that the recited means for performing the various components of step 12 could be the computer code in claim 15, since applicant has clarified the meaning of the means plus function language.

As to claims 12, 14, and 15,

An information processing apparatus comprising: (Preamble is not given patentable weight, since it only recites a summary of the claim and/or an intended use, and the process steps and/or apparatus components are capable of standing on their own; see *Rowe v. Dror*, 112 F.3d 473, 42 USPQ2d 1550 (Fed. Cir. 1997), *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999), and the like.)

-Attribute input means for inputting attribute information for a 3D model; (Watanabe in Figure 1 shows a system with a graphical input device 31 that inputs a figure and the like – see 2:13-25 as prior art, and his system allows users to input information (see Figure 2) where user interface 1 allows the user to create figures requiring less input (see 4:55-65, where such information is input). In 5:49-67, the user inputs commands and generates placement of objects. In 6:1-25, input is further discussed with respect to the user putting in two- and three-dimensional figures. In 13:22-41 the user interface is further discussed, where the user can put in two dimensional figures and three-dimensional objects, which clearly maps with the attribute input means of the instant application, and further Watanabe discusses inputting attributes in 14:20-40, where a shape attribute is input by the user. As a further example, see Figures 11(a) and 11(b),

Art Unit: 2672

where in 21:17-60 it is specified that the user specifies the creation a two-dimensional object with a hole in it and then adds thickness to create the three-dimensional object in 11(a) or the reverse procedure as the alternate path in 11(a) or the system shown in 11(b). Another embodiment is shown in Figure 12, with user interface 11 for input (see part 19, the view plane management database – 23:19-30)(Watanabe clearly utilizes three-dimensional models, as in for example Figure 12, Figure 21, Figure 25, Figure 54, and the like, where Figure 12 illustrates the presence of the 3D database and the like)(**For means plus function only:** the attribute input means are the user interface 11 in Figure 12, which is specified to be a mouse, a tablet, a keyboard, and so on for user input commands and data (22:25-45))

-Attribute arrangement plane setting means for setting an attribute arrangement plane being a virtual plane with which said attribute information for a 3D model is associated; (Watanabe 17:38-50 teaches that virtual planes are created, e.g. view planes perpendicular to arbitrary viewing directions – In Figure 10 for example, the system creates a view of an arbitrary view plane perpendicular to a viewing direction if required, or generates the requisite three-dimensional view (as in Figure 4(a) and 4(b), where the three-dimensional view is shown on the right, and the cross-sectional view is shown on the left, where the arbitrary view plane has been drawn that intersected the three-dimensional object and the portion of the object in front of the view plane has been removed. The previously cited input means allow the user to specify the location of such a plane. In any case, the real point of Watanabe is in Figures 16(a)-(c) and 17(a)-(c), as explained in 29:45-30:15, where it is shown how the attribute planes intersect an

Art Unit: 2672

object)(Watanabe also teaches in Figures 26(c) and 29(c) that each view is labeled with a name of its own – e.g. VW1 for View 1, VW2 for View 2, and the like. Further, the system automatically annotates views with that information. It can also optionally show elements such as “horizontal”, “vertical”, and the like to illustrate dimensions and orientations on drawings (see 24:45-63). In 6:24-48, it is noted that the user can annotate planes and the like with notes and various kinds of annotations, where clearly an annotation could be some kind of a label)(Ryals Figure 9B shows that the image data is divided into slices, and that such slices are numbered (which is a label) – see Figure 10, and the user can select the desired slice number, see especially Figure 12.)(**For means plus function only:** applicant states that this limitation is met by the CPU running a program. Watanabe specifies in Figure 2 that elements 2, 3, and 8 are embodied by a CPU and programs included in a computer such as a workstation. These elements constitute ‘attribute arrangement plane setting means’ (13:40-65))

-Storage means for storing said attribute information in association with said attribute arrangement plane; and (Watanabe 5:49-65 recites a storing section to store attribute information concerning the specific attribute arrangement plane, and clearly each plane in Watanabe can be separately defined so that a plurality of intersection planes can exist)(**For means plus function only:** Watanabe Figure 2, elements 7 and 9, are embodied by a storage device on the computer – 13:40-60)

-First frame setting means for setting a first frame so as to surround a range of the attribute information associated with said attribute arrangement plane; and (Next, Watanabe then shows Figures 19(a), 19(b), 20(a) and 20(b), with particular emphasis

on Figures 19(b) and 20(a). The dashed lines outline standard two-dimensional projections views – that is planes 109 and 110 outline the views shown in Figure 19(a), where one is of the cross-section of the cylinder formed by the intersection of plane 109 with the cylindrical object 113, and a long view of the object as seen from the side. The elements 111 and 112 represent two-dimensional views of the object in the viewing planes. The **really** significant aspect is the surfaces 114 and 115 that intersect with the object 108, that have a rectangular outline around them that is dashed. This is comparable to the frame recited by the instant claim, where it really describes a rectangular outline around a region or view plane indicating the object.) (**For means plus function only:** applicant states that this limitation is met by the CPU running a program. Watanabe specifies in Figure 2 that elements 2, 3, and 8 are embodied by a CPU and programs included in a computer such as a workstation. These elements constitute 'attribute arrangement plane setting means' (13:40-65))

-Display means for displaying the frame instead of the attribute information. (Watanabe, Display 1 in Figure 1, User interface 1 in Figure 2, 4:35-45, 13:20-42. Watanabe further shows the idea of having a projection plane (Figs 20(a), with view in Fig 20(b) or Fig 26(c), where the 2D planes can be projectively shown). In Figure 20(a), elements 114 and 115 denote marked boundaries around the central column. Now, while this is only used in the reference to certain planes, the idea of using this kind of marking is clearly illustrated in the Figures of the reference. Additionally, the idea of having an outline is well known (4:34-45), where the object is projected onto a view plane. Thusly, if a view plane were being sampled, it would be obvious to have the view plane outlined, and the

idea of a border or frame of the type referred to by applicant is indeed illustrated in Watanabe Figure 20(a) as a manner to denote projection planes.)(Ryals clearly shows in Figures 6-8, particularly Figure 6, for example a view of the consecutive slices that make up a 3D data set, where each slice has a border. This border could obviously be illustrated as in Watanabe Figure 20). Watanabe does not display the attribute information per se but rather illustrates the projection plane as listed in the above data frames)(**For means plus function only:** Watanabe element 11 in Figure 12 comprises output devices such as a CRT display (22:25-45))

In short, Watanabe discloses almost all elements of the instant invention, where the user input system is present, and the user can select a plane that intersects with an object. The **concept** of putting a border around such an intersection plane is shown in Figures 19(b) and 20(a) and would be obvious, because it would allow the user to identify the area that a particular plane or view is intersecting with, as in those Figures. Watanabe also shows the concept of annotating views (Figs. 26(c) and 29(c)) that may be planes that intersect an object (see for example Figures 16(a)-(c) and others), so it would be obvious that planes could be annotated (Figs. 14(a) and 14(b) for example)). Further, the system of Watanabe also supports dividing objects up into viewing areas or planes (Figs. 40, 42, 45, 48 and the like) where the object can be viewed from different angles. Finally, the concept of the applicant's invention is simply clearly shown in Figs. 19(b) and 20(a) – compare with Drawing 33 of the instant application.

The system of Ryals is directed to a similar problem-solving area, that of visualizing three-dimensional objects using two-dimensional slices and the like. Ryals

Art Unit: 2672

clearly teaches the idea of having many slices that are part of a three-dimensional object, and the idea of labeling each slice different (e.g. different numbers) that are aligned to different portions of the object.

The combination of the labeling of Ryals for each intersecting plane – and the idea of multiple intersecting planes or slices for a three-dimensional object -- would obviously enable closer analysis of a three-dimensional object in the system of Watanabe, where a user could set up regular slices through the object from an arbitrary viewpoint (as already established that Watanabe can do anyway) and further could be annotated with a label, note or the like (e.g. the numbered slices of Ryals) so that the user could track each slice with ease. Using the outlining method of Figs 19(b) and 20(a) would be obvious since they make the two-dimensional or view noticeable, and annotating each slice with a label (e.g. VW1 in Fig. 26) is obvious anyway, numbering each plane and having the rectangular frame would also be obvious. It would have been obvious to one of ordinary skill in the art at the time the invention was made to **modify** the system of Watanabe in light of Ryals because the concept of Ryals to have many slices all labeled would allow the user to more effectively explore a three-dimensional object in Watanabe, and having each plane with the frame or outline in Figs. 19(b) and 20(a) would make them more noticeable, as in Figure 20(a) of Watanabe and the various projection planes shown as listed above. Therefore, all limitations have been met. Additional motivation will be provided in the Examiner's Answer, and more details on how the reference would be modified will be provided therein.

As to claim 13, Figures 19(b) and 20(a) of Watanabe show two of the attribute arrangement planes with the dashes around them, and Ryals clearly teaches the use of multiple planes with labels on them, and Watanabe clearly teaches multiple views of an object in any case, and that such views can intersect the object (Figs. 16(a) and (b) *et al*). The rejection to claim 12 is incorporated by reference. **(For means plus function only:** applicant states that this limitation is met by the CPU running a program.

Watanabe specifies in Figure 2 that elements 2, 3, and 8 are embodied by a CPU and programs included in a computer such as a workstation. These elements constitute 'attribute arrangement plane setting means' (13:40-65))

As to claims 40 and 41, Watanabe does not expressly teach this limitation but Ryals clearly teaches in 37:34-38:5 that images can be zoomed and that they have labels. It would have been obvious to one of ordinary skill in the art that when attribute information is displayed and the image is zoomed, that the attribute information would be displayed in a magnified form in addition to the rest of the image. Motivation for such a modification is taken from the fact that zooming is meant to improve visibility of certain components, and it would only be logical that the labels associated with those components should be enlarged as well to ensure their visibility (e.g. attribute information). This is notoriously well known in the art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,808,616 to Shimizu.

Art Unit: 2672

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric Woods

Jeffery A. Brier
Jeffery A. Brier
PRIMARY EXAMINER

February 3, 2006